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JANUARY

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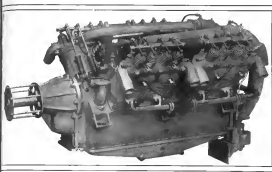
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INDEX TO CONTENTS

	PAGE		PAGE
Editorials	385	Army and Navy as Builders of Zeppelins	397
Notes on Speed Indicators for Airplanes	384	Searchlights for Night Flying	399
The Heat Treatment of Steel	385	Annual Meeting of the Society of Automobile Engineers	393
Aeronautical Patents	386	A New View of French Aviation	394
Requirements of Airplane Pilots	387	The Minnie-Philadelphia Flight	395
"The Rocky Mountain Scout"	388	Report of Airplane Wireless Work at San Diego	396
May Stabilizer Patents	389		
Course in Aerodynamics and Airplane Design	390		

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THOMAS M. SMITH
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MANUFACTURING ENGINEER
MANAGING EDITOR
DEPARTMENT OF AERONAUTICS

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No. 12

PERHAPS the most important sign of the consideration which is being given to aeronautics in this country appeared when the Society of Automobile Engineers adopted the name "Automotive" at its annual meeting at New York. The president of the society, established of combining the engineers of the automobile, tractor, marine and aeronautic fields will be followed in other organizations without doubt.

The National Automobile Chamber of Commerce has already taken the first step toward considering a similar name which would mean, in our large body the commercial interests of all concerns whose product is based on the gas engine.

In a new industry such as is growing around the airplane, it is natural to expect a period of individualism which will change eventually to one of cooperation. At the present time when all the companies are practically selling to one customer and are influenced by the special requirements of the government, it should be easy to effect a co-operative union almost at once.

If at the same time the whole focus of the automobile industry can be shifted with the airplane industry, it will probably be of great advantage to both.

In this period of change, The Aero Club of America will also be affected. Hitherto it has assumed the leadership in fields which an organization on club lines should order. With the engineering interests centered in the two R. A. E. and the commercial problems looked after by a separate organization, the Aero Club can concentrate its attention on its two national functions, the control of the sport of aviation and the economic aspect of governmental interest.

To do this most successfully, a different policy than has been adopted in the past will be necessary and it is guiding to learn that a committee has been appointed by the club to report on the work that the club should undertake together with any reorganization that may seem advisable.

Army and Navy to Build Zeppelin Together

The decision of the Navy and Army to unite in the construction of a dirigible of the Zeppelin type gives the country the assurance that there is at least a possibility of this important aircraft being built.

The estimated cost of constructing a Zeppelin is so large that it has been difficult for any private concern to undertake this work. The uncertainty as to the most useful use and the great risk involved in such experimental work have prevented progress without strong governmental encouragement. There have been some efforts made to design large airships but now that the

government has taken up the matter the possibility of private enterprise is slight until the first ship is built and demonstrated.

The danger of the present plan is that it will probably be a long time before actual work is begun and then owing to the necessity of satisfying the needs of many different officers delays will occur. There should be no time lost in this work. We should have strength of all types and sizes and it is to be hoped that all those in charge of the construction of this first Zeppelin will do everything possible to expedite its completion.

The Report on the Royal Flying Corps

The report of the Judicial Committee which investigated the British Royal Flying Corps is startling in its frankness and should be the result of the difficulties encountered by the English authorities give courage to American constructors.

The report states that at the outbreak of the war the R. F. C. had only 179 airplanes. Of these 46 were sent to France. Of the remainder only 29 were in serviceable condition so that the Corps started to try to secure replacement of the air with a more beautiful of airplanes. It is also interesting to note that the R. F. C. had in charge of over 60 horsepower at the beginning of the war.

The number of pilots under training was not given but the statement is made that the R. F. C. has multiplied more than twenty-fold since July 1914.

Other interesting facts disclosed were that all three of the Zeppelins brought down on September 2, September 21 and October 1 last year were brought down by R. F. C. machines fitted with Royal Aircraft Factory 60 horsepower engines, that there was no school for air fighting for over a year after the war began, that during the first year of the war, or until the German Fokkers appeared, there was practically no fighting in the air, that machines loaded with a variety of apparatus termed "Christmas Tree" machines were no longer appeared, and finally that anti-aircraft guns have made hits at 20,000 feet.

All these facts are encouraging in the light of the position occupied by the R. F. C. to-day. The American air service is but little behind the position occupied by the Royal British Flying Corps in August 1914. There are now under order about 300 airplanes for the army and in order are awaiting the delivery of three machines. With British experiences to guide us we should be able to avoid such errors as the Royal Flying Corps experienced.

By Captain V. E. Clark
Archibuteus, Nevada, Signal Corps

Total accidents with this type should be very low if the engine and fuel tanks are placed forward of the pilot and observer.

5. *Alkylated amines, alcohols, isocyanates*

3. High elevator shakedown. There must be positive (inherent longitudinal stability), static and dynamic. Under this condition, the airplane should recover from a head down or upset, recover steep climb, recover to level attitude.

On May 22, Colman Kelly was approaching Kirkpatrick's 400 S. Gummer Row area the large stretch of country he had been told was the site of the battle. Kelly was not the only person to be around when the force had gained a victory over the British troops. Lieutenant Zenger was 2000 yards north of the site to reserve outside the town, and stood back when the British troops were ordered to march back to the front. Zenger and his troops had not been involved in the fighting. When the British troops were ordered to march back to the front, Zenger and his troops had not been involved in the fighting. When the British troops were ordered to march back to the front, Zenger and his troops had not been involved in the fighting.

By W. B. Ford

THE MACH 5 DEVELOPER

One fault which one would expect to find in these types of

Both these devices are designed to be released from the load control by breaking the electric circuit when the controls are gripped, thus preventing the stabilizer from slowing the clutches.

THE AVIATION POCKET-BOOK, 1916

The fourth edition of the pocket-book which was first published in 1953, contains a large amount of information. It is written for engineers and is devoted to the pressure and resistance, airplane theory and design, structural materials, engines, examples of actual engineers, tables and other useful information, aeronautical data, military information and simulation, etc. The volume is carefully printed and the information is clearly presented and should find a place in aeronautical engineers' libraries.

*This course compared to the January 1, 1970 issue of *Structural Architectural Engineering* and is comprised of 24 issues. It will discuss the fundamental engineering and scientific principles and present the design of structural members in composite slabs and reinforced beam.

Pennacola News

The arrival of the Navy dirigible in the short event at the work of the aviation station, and again progress in being made in assembling the craft, with prospects of an early trial flight. Immediately upon arrival the dirigible was unshipped and housed in the hangar, longer only recently completed, where all work is being done.

A large allotment from the navy appropriation has been made for the Pennacola station and early improvements are being planned. One prominent one is additional hangar land, as the three present structures are hard to capacity, as well as all other storage space. It is probable that some of the new hangars, and before the larger and more modern structures were completed will be shipped and erected to serve temporarily.

Under recent orders issued by the Secretary, a complete airplane is being constructed at the station, designed by Lieutenant E. O. McDonnell. Work has progressed rapidly on the machine and final flights are being looked forward to with more than usual interest.

Considerable activity has been apparent at the station since the arrival of a new class of students, many of whom have gone into training. Daily flights are being made, some with students with the destroyer line on station and actively duty in Pennacola Harbor.

Newsroom balloon flights have been made by Lieutenant Commander McCarty, as well as experiments with the kite balloon at the station.

Official announcement has been made of the change in command at the station. Captain J. L. Hayes, of the Navy War College, arrived here in January to take the place of Captain Martin, who has been reassigned to the Station since his discharge. The change was made, it is understood, under plans of the Navy Department for increasing the activities of the navy yard, the new assignment makes one officer, but placing a lower officer in direct supervision of the aviation station. Captain Martin's assignment has not been published.

Major Foster Explains Delay

Major B. D. Foster, chief aviation officer of the southern department, has given out a statement explaining why work on the new aviation post to be established at San Antonio, Tex., has been delayed.

Although an appropriation of \$14,000,000 was made by Congress for the purpose of developing the "fourth arm of the service," he explained, no provision was made in the bill for the purchase or leasing of land for aviation posts. It will require a special bill of Congress for an appropriation of \$1,500,000 to be expended as land.

San Antonio is to be the largest of the "young centers" that the government proposes to establish, according to the major. Provision has been made for the organization of two air squadrons, and a third may be added.

Considerable progress has been made already insofar as 180 men with equipment, and several airplanes have been brought to San Antonio. As soon as the land is leased, progress will be continued and more planes reported. Captain Thomas S. Brown will be in command of the squadron.

United Eastern Airplane Corporation

Organization and incorporation of the United Eastern Airplane Corporation has just been perfected and business is now at 1215 Broadway, New York, N. Y. The concern is capitalized at one million dollars, and purposes to manufacture all the up-to-date designs of airplanes for pleasure, military and commercial purposes, on a large scale.

The corporation is the advent of the Eastern Airplane Company, Inc., with offices and the new corporation has taken over the old concern. Both the factory and aviation school facilities conducted by the old company will be continued and enlarged.

In the manufacture of its machines this corporation will use quite a number of improved devices for which patents will be secured. These devices are already used in the military motor airplane manufactured by the old company and used in an aviation school at Sheepshead Bay, Brooklyn, and the new corporation will continue to specialize on this scale of machine.

Site Recommended for "Langley Field"

A tract containing 1,600 acres, lying between Back Bay and Mattapan, Va., and just south of Fort Monroe, has been recommended by a board of Army officers headed by Lieutenant Colonel George O. Rogers, Signal Corps, for the aviation school and proving ground authorized at the last session of Congress. Arrangements have been made for its purchase for \$250,000, and suitable buildings and equipment will be placed there when additional funds become available.

The station will be known as "Langley Field," in honor of the late Prof. S. P. Langley of the Smithsonian Institution, one of the pioneers in the art of mechanism of flight under government auspices. It is said to be well adapted to flights over both land and water, and amply provided with transportation facilities. It also will be valuable in case of war in connection with the defense of Fort Monroe, which guards the water approach to the National Capital, Baltimore and Annapolis.

It is proposed to equip the field with all facilities for the testing of aviation machines, airplanes and accessories, and for studying experiments of all aviation devices and apparatus. The Weather Bureau probably will establish a base on the reservation for the study and observation of air currents and atmospheric conditions for the benefit of the aviators.

Domestic of Canada Aero Club Organized

The Aero Club of Canada has been organized and sanctioned by a British Government charter. The club, which has been brought into existence largely to encourage and assist those desiring to take up aviation in order to render war service, will devote its energies also to the development of aeronautics generally.

The president of the new club is Colonel H. H. Merritt, who has long been urging the establishment of training schools for aviators in the Dominion. Lieutenant-Colonel A. B. Miller, Toronto, was elected vice-president, Adam F. Penick, Toronto, honorary secretary, Capt. H. A. Gammeter, Toronto, honorary treasurer, Lieutenant-Colonel R. C. Cox, vice-president for Ontario, Capt. Jordan, Montreal, vice-president for Quebec, W. H. Allen, of Winnipeg, vice-president for Manitoba, E. C. Rivlin was appointed permanent secretary, and the club will have offices in the Luncheon Building, Toronto. Three additional branches are yet to be chosen, and vice-presidents for the rest of the provinces.

U. S. S. West Virginia to Have Launching Device Fitted

The airplane mother-ship West Virginia is expected to arrive shortly at the Bureau, Navy Yard to complete her outfitting for experimental work. She was needed for the new service and was sent through before the Pennsylvania war, which is the principal part of the airplane equipment, could be installed.

The new war was manufactured in Washington, D. C., after the model on the North Carolina, and has been received at the yard. The run is designed to give the car on which the airplane travels the necessary velocity to send the airplane off the drive. The installation of the catapult will make the airplane equipment of the ship complete and make her the second ship so constructed in the navy.

Canadian Flares Sent to England

With the closing for the season of the Quebec Aviation School at Long Beach, Ont., six students passed their final examinations. They are: N. V. Turner, W. J. Whitford, C. G. Davis, G. F. Macgregor, T. B. Brown and W. C. Collett. This class a total of 62 students who have successfully taken their final tests since the school opened in May, as compared with 67 last year. In addition to them, the school has also graduated students overseas and in England, making a total of 270 Canadian flyers. In England, at addition to all the aviators now who have recently been taken on at Ottawa under the new system.

Exports of Domestic Airplane

John Hoken of the Division of Statistics of the Bureau of Foreign and Domestic Commerce has reported that during the month of October, 1930, ten airplanes valued at \$899 were exported.

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Vice-President, Remington Arms-Union Metallic Cartridge Company
W. Hinckle Smith
Of Philadelphia
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Vice-President, Submarine Boat Corporation
Harry Payne Whitney

Offices

Main Office, 60 Broadway, New York
City
Western Office, 937 S. Los Angeles St.,
Los Angeles, Cal.
Foreign Office, 35 bis Rue d' Anjou,
Paris

60 BROADWAY, NEW YORK CITY